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WORLD MARITIME UNIVERSITY

Shanghai, China

**RESEARCH ON DEVELOPMENT OF YANG
SHAN BONDED LOGISTICS PARK**

By

FAN QING

China

A research paper submitted to the World Maritime University in partial
Fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

(INTERNATIONAL TRANSPORTATION AND LOGISTICS)

2008

DECLARATION

I certify that all the material in this research paper that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this research paper reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Dissertation: Research on Development of Yang Shan Bonded Logistics Park

Degree: Master of Science in International Transportation and Logistics

With the fast developing pace of modern logistics, Yang Shan Bonded Logistics Park is constructed to upgrade the status of Shanghai in the global logistics network. However, there exist many problems in the development of Yang Shan Bonded Logistics Park, which requires us to do research on its development situation and make corresponding suggestions aiming to reduce the operation risk to a minimum level.

This paper intends to study the developing situation of Yang Shan Bonded Logistics Park by means of some theoretical models. Firstly, the paper analyzes the internal and external environment of Yang Shan Bonded Logistics Park by the method of SWOT analysis to identify the influence factors that dominate developing trend. And then strategic objectives and developing functions can be obtained, followed by functional developing evaluation system to make clear of the operating and developing situation of Yang Shan Bonded Logistics Park. Finally, base on the analysis and evaluation, some existing problems are found out and the writer want to make some feasible suggestions, which will be great helpful to strengthen Yang Shan Bonded Logistics Park's leading position in the global logistics market.

Key words: Yang Shan Bonded Logistics Park, Strategic Objectives, Developing Functions, SWOT Analysis, AHP – Fuzzy Model,

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT.....	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF FIGURES.....	viii
LIST OF ABBREVIATIONS.....	ix
1. Introduction.....	1
1.1 Research Background.....	1
1.2 Research Content and Methodology	2
2 Literature Review	5
2.1 Theoretical Study.....	5
2.1.1 Logistics Park Concept.....	5
2.1.2 Research on Yang Shan Bonded Logistics Park.....	6
2.2 Methodology & Technology	7
2.2.1 SWOT Analysis Theory	7
2.2.2 AHP – Fuzzy Model.....	8
3. Development Environment Analysis.....	10
3.1 Basic Background of Yang Shan Bonded Logistics Park.....	10
3.2 Analysis of Internal Environment	11
3.2.1 Developing Strength Factors.....	11
3.2.2 Weakness Factors.....	20
3.3 Analysis of External Environment	23
3.3.1 Opportunities Analysis	23
3.3.2 Threats Analysis.....	33

3.4	SWOT Analysis of Yang Shan Bonded Logistics Park	35
	Chapter Summary	36
4	Strategic Objectives and Developing Functions	37
4.1	Strategic Objectives	37
4.2	Developing Functions	38
	Chapter Summary	43
5	Evaluation on Developing Functions by AHP-Fuzzy Model	44
5.1	The Model of Analytic Hierarchy Process (AHP)	44
5.1.1	Establishment of Comprehensive Evaluation Indicators System ..	44
5.1.2	Determination of Index Weight	46
5.1.3	Consistency Checking	49
5.2	The Model of Fuzzy Comprehensive Evaluation.....	50
5.2.1	Definition	50
5.2.2	Fuzzy Comprehensive Evaluation.....	52
5.3	Results and Analysis.....	53
	Chapter Summary	54
6.	Development Suggestions.....	55
6.1	Improve International Transshipment Volume	55
6.2	Introduce more Logistics Enterprises	56
6.3	Strengthen the cooperation between different departments.....	57
6.4	Establish risk management systems and logistics insurance market....	58
	Chapter Summary	59
	CONCLUSION.....	61
	REFERENCE.....	63

LIST OF TABLES

Table 3.5	Comparison between Yang Shan Bonded Logistics Park and other areas with custom's policy.....	26
Table 3.7	The economy development situation of Yangtze River Delta.....	29
Table 3.9	SWOT analysis of Yang Shan Bonded Logistics Park.....	35
Table 5.1	Evaluation index system of Yang Shan Bonded Logistics Park.....	46
Table 5.2	Pair-wise comparison for AHP preferences.....	47
Table 5.3	Consistency index RI.....	50
Table 5.4	Five scores standard.....	52

LIST OF FIGURES

Figure 1.1	Research Framework of this Thesis.....	4
Figure 3.1	Location of Rotterdam in Europe.....	12
Figure 3.1	Location of Shanghai in Northeast Asia.....	13
Figure 3.3	Road system of Yang Shan Bonded Logistics Park around.....	15
Figure 3.4	Geographic location of Yang Shan Bonded Logistics Park.....	21
Figure 3.6	Throughout forecasting of Yang Shan Deepwater Port (10 thousands TEUs).....	27
Figure 3.8	Planning maps of Lin Gang Industrial parks.....	32

LIST OF ABBREVIATIONS

AHP	Analytic Hierarchy Process
CMST	China National Materials Storage and Transportation Corporation
JIT	Just In Time
KWE	Kintetsu World Express
MOL	Mitsui O.S.K. Lines
NVOCC	Non-Vessel Operating Common Carrier
OOCL	Overseas Container Line
SWOT	Strengths, Weaknesses, Opportunities and Threats
TEUs	Twenty Equivalent Units

1. Introduction

1.1 Research Background

In today's world, the new economic growth points have been fostered. Most of the countries make effort to build logistics parks around container hub port and improve modern logistics industry based on the developed container transportation in order to achieve the goal of regional economic leap. Shanghai follows the development track of international hub port building a deepwater port offshore with a logistics park onshore, which is much helpful for Shanghai port to generate competitive advantages in the international shipping market.

Yang Shan Bonded Logistics Park, as one of the indispensable parts in the construction of Yang Shan Deep-water Port project, plays an important role in the achievement of sustainable development of Shanghai international container hub port. The park can be regarded as the "door" and "window" of Yang Shan Deepwater Port. "Door" means that the cargoes from the port to inland must pass customs clearance and port inspection in Yang Shan Bonded Logistics Park. And "window" refers to that port transportation and trade procedures which are not necessary to deal with in the port can be easily conducted in Yang Shan Bonded Logistics Park. In short, Yang Shan Bonded Logistics Park not only provides rear support and ancillary services for Yang Shan Deepwater Port and Shanghai International Shipping Center, but also relies on Yang Shan Deepwater port to develop all-around logistics industry aiming to create a world-class logistics park and gradually become the Northeast Asian international logistics center.

Yang Shan Bonded Logistics Park Phase □ has been finished in 2005, totally covering the area of 1.35 square kilometers. While the planning land use of the whole project is almost 21 square kilometers, which is to adapt the increasing terminal cargo volume in the future. Because the logistics park is still in the initial stage of development, various issues exist in the development process. This paper intends to make contribution to study the developing situation of Yang Shan Bonded Logistics Park. From various aspects of developing environment, strategic objectives and developing functions, the writer generates the development trend of Yang Shan Bonded Logistics Park and tries to find existing problems and advocate according solutions in the process. This study appears to be extremely important to optimize the development of Yang Shan Bonded Logistics Park and speed up the development of China's logistics parks that could keep up with the pace of international logistics parks.

1.2 Research Content and Methodology

This dissertation analyses the potential development ability of Yang Shan Bonded Logistics Park. In the first place, the internal and external environments of Yang Shan Bonded Logistics Park are analyzed by SWOT analysis method to identify the core competencies and advocate building strategies on these foundations to assure the attractiveness of Yang Shan Bonded Logistics Park as well as figure out the weaknesses and treats that should be avoided in the developing process. In the second place, based on the actual developing environment analysis, strategic objectives and developing functions are presented to ensure the developing direction of Yang Shan Bonded Logistics Park. It is the best and rational strategies which can most reasonable allocate the resource and expand the greatest development space for Yang Shan Bonded Logistics Park. In the third place, as we know, Yang Shan

Bonded Logistics Park has been put into operation for more than 2 years. During this period, whether its actual operation and developing situation are in line with the strategic objectives and whether all the logistics functions in the overall plan do play their roles in Yang Shan logistics value chain? In order to make clear of these problems, Analytic Hierarchy Process (AHP) model is applied to set up an appraisal model evaluating the achievement of developing functions of Yang Shan Bonded Logistics Park. The most important thing is to find out the distance between the actual developing situations of Yang Shan Bonded Logistics Park and the planned developing functions aiming to act appropriately to the situation. What's more, according to the appraisal result, the existing problems and according solutions will be presented. Efficient actions will be taken to put forward the park's developing trend on the right track.

In the study process, various methods are used to analysis the development of Yang Shan Bonded Logistics Park. Besides SWOT Analysis model and AHP-Fuzzy model, this paper has also taken the approaches of theory and practice integration analysis, qualitative and quantitative integration analysis as well as making full use of internet resources. Base on the above research content and methodology, research framework of this paper can be obtained as follows: (*See Figure 1.1*)

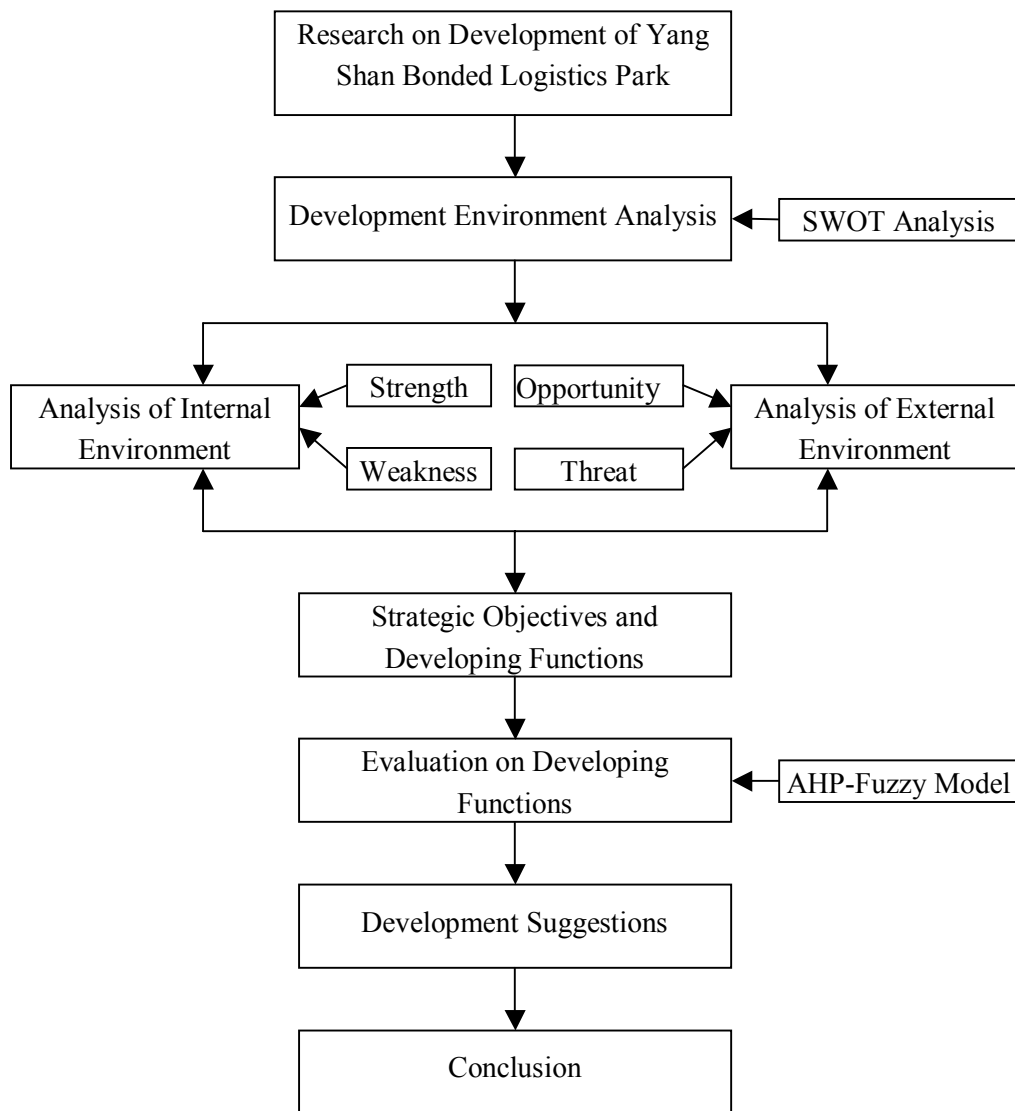


Figure 1.1 Research Framework of this Thesis

2 Literature Review

2.1 Theoretical Study

2.1.1 Logistics Park Concept

Based on an extensive search in the academic literature, this part generates the review of the concepts of logistics park. Logistics park is the most crucial part of city logistics system, but there is no clear and uniform definition at home and abroad until now. We can see that in foreign languages, a considerable number of terms have the same meaning with "logistics park", such as platform freight terminal, transport centre, freight village, transport center, logistics hub, logistics center and so on.

For the definition of logistics park, one program funded by the European Commission called "FV-2000-Quality Freight Villages Structure and Operations" has presented its opinion: "A freight village is a concentration (or a cluster) of freight related activities within a specific area, commonly built for such a purpose, master planned and managed. These activities include distribution centers, warehouses and storage areas, transport terminals, offices and other facilities supporting those activities, such as public utilities, parking space and even hotels and restaurants. Although a freight village can be serviced by a single mode, inter-modal facilities can offer direct access to global and regional markets. The development of freight villages has many benefits to manage the freight flows generated by several unrelated users through economies of scale since they are sharing the same facilities and equipment, mostly around a transport terminal. This in turn reduces transport costs and promotes its reliability."^[1]

[1] European Commission (2000) 'FV 2000-Quality of Freight Villages Structure and Operations.' <http://www.freight-village.com/fv2000/Deliv2.htm>, Accessed on 3/1/2006.

Based on the European definition and with the national conditions of China, China experts have another opinion. They definite logistics park as a city logistics functional region with the feature of economic development to realize the centralized construction and development of the logistics management node. At the same time, logistics park is also regarded as an economic functional region with the feature of industrial development. Its main businesses are business processing, raw materials purchasing and other industrial production activities direct linking with the consumer place. It can lead to many advantages to do businesses in logistics park, which will reduce logistics cost, improve logistics operating efficient and promote logistics services level by relying on the related logistics service facilities.

2.1.2 Research on Yang Shan Bonded Logistics Park

In current logistics park research, there are a lot of publications that make study on the Yang Shan Bonded Logistics Park from all aspects, including its function, planning and designing, logistics chain and relationship with Yang Shan Deepwater Port. Ren Xianzheng, together with Zhang Rong and Liu Ying (2005), have pointed out that Yang Shan Bonded Logistics Park, as China's first offshore port logistics park, should aim to build a high-efficiency, low-cost, sustainable development, modernization logistics park as a model to support the third generation port.^[2] Li Yuru (2005) at Shanghai Maritime University proposed a reasonable and practicable logistics channel and operational model after deep study on existing operational planning and logistics channel mode of Yang Shan Port and its logistics park.^[3]

[2] Ren Xianzheng, Zhang Rong, Liu Ying. (2005). the function position of shanghai deepwater logistics park [J]. *Economic Logistics*, 32-35.

[3] Li Yuru. (2005). Logistics channels and operating pattern of Yang Shan terminal in Shanghai port [J]. *Journal of shanghai maritime university*, 26(2), 13-16.

2.2 Methodology & Technology

2.2.1 SWOT Analysis Theory

Strategic management, which consists of three stages: strategy formulation, strategy implementation, and strategy evaluation, has been widely used by all enterprises to withstand fierce market competition. SWOT Analysis, as one of the most popular methods of business strategic management, would analyze the strengths, weaknesses, opportunities and threats of the company. The strengths and weaknesses are identified by an internal appraisal which examines all aspects of the organization covering, for example, personnel, facilities, location, products and services, while the external appraisal scans the political, economic, social, technological and competitive environment with a view to identify opportunities and threats. All in all, strategies can be developed after having identified these factors, which may build on the strengths, eliminate the weaknesses, exploit the opportunities or counter the threats when facing an uncontrollable environment. ^[4]

For example, Marian Sulgan (2006) suggested that there are at least five steps at the beginning of logistics park development, namely comparative analysis, SWOT analysis, transport infrastructure survey, marketing study and marketing plan. In the stage of SWOT analysis, it aims to identify the strengths and weaknesses of the logistics park and the opportunities and threats in the environment, then built a research basis to the following study on the logistics park development. ^[5]

[4] Robert G. Dyson. (2004). Strategic development and SWOT analysis at the University of Warwick [J]. *European Journal of Operational Research*, 152, 631 – 640.

[5] Marian Sulgan.(2006). Logistics Park Development in Slovak Republic [J]. *Transport*, 3, 197-200.

What's more, A quantified SWOT analytical method is used to assess the competing strength of each port and then suggest an adoptable competing strategy for each port by Hsu His Chang and Wen-Chih Huang (2005).^[6] From the coordinate value of the SWOT analysis of the ports, their positions in the competition can be clearly realized, and this helps enterprises to learn about themselves as well as competitors and can be used as the foundation of developmental strategies, which has model significance for research on logistics parks by SWOT analysis.

2.2.2 AHP – Fuzzy Model

Analytic Hierarchy Process (AHP), a decision-making method combining qualitative and quantitative analyses, was put forward by T. L. Saaty (1965), a famous American expert on operational research, in the middle 1970s. It is a multi-criteria decision-making methodology to structure a multi-attribute problem hierarchically, and then to investigate each level of the hierarchy separately, combining the results. However, in the traditional formulation of the AHP, human's judgments are represented with crisp numbers. In many practical cases the human preference model is uncertain and decision-makers might be reluctant or unable to assign exact numerical values to the comparison judgments.^[7] What's more; fuzzy set approach was proposed by Lotfi A. Zadeh in 1965 to deal with the uncertainty and vagueness in the decision process. It is really a powerful mathematical tool for modeling uncertain systems in industry, nature and humanity; and facilitators for common-sense reasoning in decision making in the absence of complete and precise

[6] Hsu-Hsi Chang, Wen-Chih Huang. (2006). Application of a quantification SWOT analytical method. *Mathematical and Computer Modeling*, 43 , 158–169

[7] T.L. Saaty. (1965). *The analytic hierarchy process*. New York: McGraw Hill.

information. ^[8] The integration of AHP with the fuzzy synthetic extent analysis method (AHP- fuzzy) is proposed to deal with the evaluation of multi-factors problem as a framework to guide managers.

[8] Zadeh, Lotfi. (1965). Fuzzy sets. Information and Control. 8 , 338-353.

3. Development Environment Analysis

3.1 Basic Background of Yang Shan Bonded Logistics Park

In today's world, the majority of countries have put forward an important measure aiming to improve regional economy. They construct logistics parks around the container hub port and promote modern logistics industry based on the developed container transportation, which foster the new growth point of economy. As a national strategy, Yang Shan Deepwater Port is constructed to further improve city functions of Shanghai, raise it's international competitiveness as well as accelerate the process that building shanghai into an international economic, financial, trade and shipping centre. Yang Shan Bonded Logistics Park is one of the indispensable parts in the construction of the Yang Shan Deep-water Port and plays an important role in the achievement of sustainable development of Shanghai international container hub port. More attention should be paid on the logistics park development as it is the core carrier of Shanghai international shipping center.

Located around the landing points of Donghai Bridge (in Nanhui district of Shanghai), Yang Shan Bonded Logistics Park is closed to Lin Gang Heavy Equipment Industrial Zone and Lin Gang main port city. The total area is six square kilometers, including of eight functional areas, namely port auxiliary operation area, port inspection area, international bonded logistics area, rail container handling area, inland river container handling area, dangerous cargo warehouse area, integrated service area and Lin Gang bonded warehouse area. According to the joint inspection and permission of relevant state ministries, the logistics park began to operate on 10th, December, 2005. Along with the business of value-added activities, import and export trade, processing and distribution and bonded logistics and so on, the logistics

park provides the container port with solid support so as to form strong advantages for Yang Shan Deepwater Port in the shipping market. What's more, Yang Shan Bonded Logistics Park mainly serves for automotive, machinery, electronics, chemicals and consumer goods like garment and household appliances, providing logistics for them and especial bonded processing services for electronic products and auto parts. In short, Yang Shan Bonded Logistics Park integrates the functions of port and logistics park, coordinates with the non-bonded logistics park and heavy equipment industrial park and then becomes the international communication center with information interchange, logistics service and Lin Gang industry.

3.2 Analysis of Internal Environment

3.2.1 Developing Strength Factors

3.2.1.1 Geographical Advantages and Advanced Traffic System

Yang Shan Bonded logistics park enjoys a unique geographic advantage. Similar to the geographical status of Rotterdam which covers many European economic regions like England, France, Germany and Italy and accounts for about 80% of European GDP, Shanghai trade covers Yangtze River and East China, which together make up of 60% GDP of china. Due to the special location, shanghai also can radiate throughout the Northeast Asian region. (*See Figure 3.1 and Figure 3.2*) Yang Shan Bonded Logistics Park, as a part of Yang Shan deepwater port project, benefit from the flourish international trade of Shanghai. It's located in the west of Lin Gang new city, around the loading point of Donghai Bridge. Domestic logistics and international logistics would gather in Yang Shan Bonded Logistics Park, contributing to regional logistics and costal trade development.

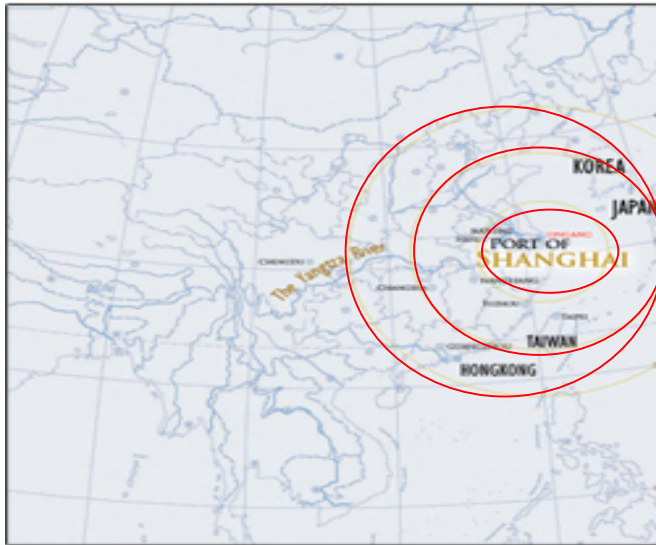
Yang Shan Bonded Logistics Park also has a developed and convenient transportation system which links it with other districts and suburbs of Shanghai, as well as the surrounding provinces in the Yangtze delta. Otherwise, according to the government's unified plan, there are non-bonded logistics park, railway hubs, inland container transshipment zone and dangerous goods warehouses in the surrounding areas of Yang Shan Bonded Logistics Park, which will become an important platform of Shanghai International Shipping Center. With the acceleration of route transfer, more and more domestic and foreign shipping companies and third-party logistics enterprises will choose Yang Shan Bonded Logistics Park as its operation hub, then fully make use of its logistics and industry integrated value.



- “Banana Circle” covers 80% of Europe’s GDP
- The Banana Circle centered at Rotterdam includes European important economic areas such as southeast UK, west Germany, northeast France, northwest Italy, etc.

Figure 3.1 Location of Rotterdam in Europe

Source: <http://www.shlingang.com/cn/overview/>



Area	GDP%
Yangtze River Delta	24% of China total
East China + Yangtze River Area	60% of China total
Northeast Asia	19% of world

Figure 3.2 Location of Shanghai In northeast Asia

Source: <http://www.shlingang.com/cn/overview/>

There are facilitating transport system in this bonded logistics park and around. The advanced transport network is made up of five kinds transport methods, namely international sea transport, inland waterway, highway, railway and air transport, through which the goods can be delivered as soon as possible to its destination and speed up cargo turnover and logistics service.

(1) International sea transport. Yang Shan Deep-water Port, as the international container hub, connects with the bonded logistics park with Donghai Bridge. The container route density is gradually increasing from the original European routes to South America, North Africa, and the Mediterranean route, about 43 routes a week. The goods discharged from the ships calling at the Yang Shan Deepwater Port, go though Donghai Bridge and can be gathered in the Yang Shan Bonded Logistics Park for international transshipment or domestic distribution.

(2) Inland waterway. Yang Shan Bonded Logistics Park has a developed water system which connects the logistics park with Huangpu River by inland container terminal, and then the cargo in the logistics park can go directly through Huangpu River to Yangtze River and other inland rivers, achieving the rapid distribution of goods. The key issue is that inland container terminal has made it a reality to build a cheap river transport network that has been planned and constructed in order to link the cities of Yangtze River Delta. Inland water transport system regards Yangtze River Delta as the center and will further radiate to the inland cities on Yangtze River basin. What's more, the "shuttle bus" container lightering system has already opened between Yang Shan port and Wai Gaoqiao port.

(3) Highway. The roads running through the logistics park, is connecting with the main trunk roads of Shanghai city. (See Figure 3.3). A2, A20 and A30 highways all pass through the Yang Shan port area and are all involved in the high-speed highway network of Yangtze River Delta. A2 highway starts at the Yang Shan Deepwater port go through Donghai Bridge and Yang Shan Bonded Logistics Park, and involve into the outer ring road of Shanghai city and the national highway arteries. Lianggang Avenue goes across the central Lin Gang New City with the shape of arc, and it has directly access to Pudong international airport. In addition, if goes west, Lianggang Avenue will link the A30 road at south Fengxian District and offer rapid access for road transportation.

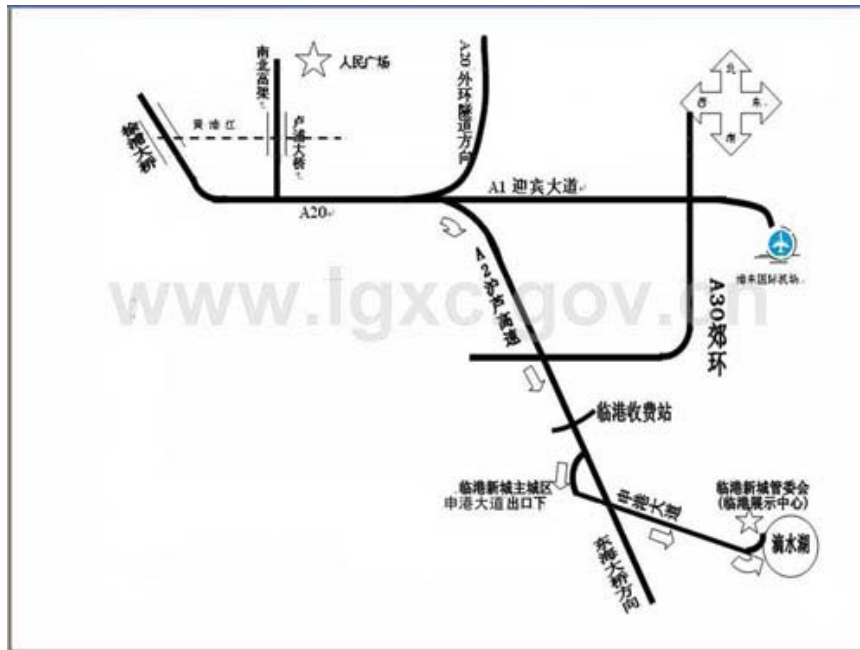


Figure 3.3 Road system of Yang Shan Bonded Logistics Park around

Source: <http://www.lgxc.gov.cn/aboutus/location.htm>

(4) Railway. Relying on Pudong Railway, Yang Shan Bonded Logistics Park can make full use of the advantage of railway in the container multimodal transportation to carry on high-volume and long-distance freights. Lin Gang paragraph of Pudong railway and container railway station have already been completed and will be constituted of convenient national railway transport network together with other 18 container central station. At present, the “rail –sea transport” lines from Lin Gang container railway station to Nanjing, Hefei, Nanchang and other cities have been opened one after another. What’ more, NO.11 rail line linking the Shanghai city center with the Yang Shan Bonded Logistics Park will be constructed soon.

(5) Air transport. Yang Shan Bonded Logistics Park is about 30 kilometers away from Pudong international airport and the “air-sea transport” cargoes can be

delivered from the bonded logistics park to the airport in one hour, which can rational allocate the resources and meet air-sea transport demand.

All in all, Yang Shan Bonded Logistics Park, located at the intersection center of five traffic ways, has the comprehensive advantages of sea, rail, road, inland water and air transport. Its three-dimensional and highly efficient container distribution network is being accelerated to form. With well planning and construction and depending on the China economic center Shanghai as well as annual container throughput growth of Yang Shan Deepwater port, Yang Shan Bonded Logistics Park will meet the traffic and efficiency demand as support for the future Northeast Asian shipping center and transport hub. According to geographical advantages and advanced traffic system, Yang Shan Bonded Logistics Park can provide convenient, efficient and safety logistics service, speed up the good turnover and improve supply chain efficiencies, which generate the competitive strength for the logistics park in the fierce logistics market.

3.2.1.2 Integrated Regional Functions.

Yang Shan Bonded Logistics Park has all the functional features of container hub port, bonded zone, export processing zones and bonded logistics parks. Its service function is realizing by building logistics value-added platform. Registered enterprises, especially third-party logistics companies, take the business model such as international transshipment, international procurement, international distribution, re-export trade and export processing, expanding its logistics service network coverage to Yangtze River Delta and Yangtze River basins. At the same time, the logistics park also has comprehensive logistics service at an efficient and convenient level in terms of bonded warehousing, factory logistics, bonded logistics, spare parts

distribution and market interchange. Its focus industry and functions lies on the following 10 areas:

- ***Container handling and transportation.*** Enterprises that have the transport or agent operating qualifications in accordance with the law are permitted to operate the related business in Yang Shan Bonded Logistics Park in terms of international ship transportation, international ship agent, international ship management, international goods handling and warehousing, container yard business and NVOCC.
- ***Container port value-added services.*** Enterprises that have the port authority's permission to engage in international shipping, logistics, international trade and other business, can handle and store the containers, load and unload the containers, transship the full containers, provide port equipments and rent or repair the port equipments.
- ***Procurement and Distribution.*** Enterprises in Yang Shan Bonded Logistics Park can establish international procurement center, logistics distribution center and distribution center and carry out the business of goods procurement at home and abroad, international distribution, cargo transport and logistics distribution and so on. The enterprises in the logistics park are encouraged to develop the related business of international logistics operating center.
- ***Warehousing and commercial processing.*** Enterprises in Yang Shan Bonded Logistics Park are permitted to invest in, construct and lease warehouse facilities as well as bonded store the commodities. The warehousing business of future commodities at home and abroad is encouraged to develop. In addition, the enterprises can process the storage goods in the commercial way such as grading, packaging, selecting, classifying, and pasting marks.
- ***Trade.*** Enterprises can engage in trade business in Yang Shan Bonded Logistics

Park or between the bonded logistics park and overseas. The Re-Export Trade is highly encouraged according to the special policy in the logistics park. If the enterprises have registered and completed the related procedure in accordance with the law terms for foreign trade operators, they can engage in import and export commodities trade, distribution and other business.

- ***Display Transactions.*** Enterprises in Yang Shan Bonded Logistics Park can establish commodity interchange markets, distribution centers and hold commodity exhibitions. The overseas commodities and non-bonded commodities can be showed, exhibited and interchanged. At the same time, the related consulting, technical training and logistics services also have been opened. The international trading center of bulk commodities business is encourages in this logistics park.
- ***Processing and Manufacturing.*** There are also processing, manufacturing, bonded maintenance, testing, product research and development centers, and other services in Yang Shan Bonded Logistics Park. The main focus is on introducing and developing mechanical and electrical equipments, IT products, automobile parts, fine chemicals, high-grade consumer goods and other manufacturing projects. If in line with relevant regulations of customs and approved in advance, enterprises in this bonded logistics park can transfer the foreign shipper's materials to the enterprises in non-bonded parks for processing, or accept the requests of enterprises in non-bonded park to process the materials.
- ***Finance.*** With the permission of national financial authority, financial institutions at home and abroad can establish operating subsidiaries in Yang Shan Bonded Logistics Park and operate the relevant financial business. In addition, foreign banks approved by authority in this logistics park can conduct RMB business, and domestic and foreign financial institutions with authority permission can operate offshore banking, offshore finance and other franchise

operations.

- ***Research and Innovation.*** Enterprises are encouraged to work in product and technology research, data processing, software development and other services. What's more, the independent innovation and high-tech venture projects are paid more attention to
- ***Shipping and Logistics services.*** The shipping and logistics services are put forward in Yang Shan Bonded Logistics Park, such as customs applicant, freight agent, ship agent, tallying, cargo and ship insurance as well as equipment leasing services.

3.2.1.3 Perfect Supporting Facilities

Yang Shan Bonded Logistics Park is connected with Yang Shan Deepwater port by 32-kilometre Donghai Bridge, with the closed customs area of six square kilometers, among which, port inspection zone covers an area of 610,000 square meters, supporting operation zone covers an area of 450,000 square meters, and dangerous cargo operation zone covers an area of 60,000 square meters. Otherwise, the park is equipped with 3 rubber-tire gantry cranes, 5 container trucks, and 46 all types of forklifts and container stackers. Yang Shan Bonded Logistics Park has basically completed the infrastructure construction. The park has built 200,000 square meters modern warehouse with about 750,000 square meters various logistics warehousing projects and about 180,000 square meters other industrial and commercial projects under construction. Furthermore, regional information infrastructure and shared platform is accelerated to construction. The network information platform not only meets the needs of logistics park operation, but also fully embodies the requirements of implementing high-efficient supervision and high-quality service for bonded logistics. Infrastructure upgrade of Yang Shan Bonded Logistics Park has reversed

the situation that china's ports are in a disadvantageous position due to the policy limitation in the competition with ports of neighboring countries. Hardware construction of Yang Shan Bonded Logistics Park has a very important role on significantly enhancing economy radiation international transshipment functions of Shanghai to be the international shipping center.

3.2.2 Weakness Factors

3.2.2.1 Long Transport Distance

Yang Shan Bonded Logistics Park is far from People's Square, the center of Shanghai city. The distance is about 75 kilometers and about 60 minutes by car. It is also about 30 minutes by car away from the Pudong International Airport, about 60 minutes by car away from Hongqiao Airport. What's more, through Donghai Bridge from Yang Shan deepwater port terminal to Yang Shan Bonded Logistics Park; the distance is also about 30 minutes by car. The specific position map can be seen in *Figure 3.4*.

The first problem facing by enterprises that building logistics center in Yang Shan Bonded Logistics Park is growth of distribution distance, which will certainly lead to transportation cost increasing. DAQI (*a pseudonym*) is a typical example. As an auto logistics enterprise, it has built a 3,000-squaremeter auto parts warehouse in Yang Shan Bonded logistics park to supply for the production of a Shanghai automobile plant. As 30% of the spare parts are imported from abroad and domestic upstream processing plants can enjoy the tax rebate policy, the company intends to operate cargo consolidate and distribution business in Yang Shan Bonded Logistics Park to



Figure 3.4 Geographic Location of Yang Shan Bonded Logistics Park

Source: <http://www.lgxc.gov.cn/aboutus/plan.htm>

provide JIT service for the automobile plant. However, the extension project of “one day’s trip” [9] has been blocked due to various reasons. What’s most difficult is to meet the time limitation of JIT service. The distance from warehouse to the factory is already beyond security control distance. In other words, according to the calculation of relevant department, if there is a traffic jam or an accident between two nodes, emergency systems can not provide effective ways to solve problems of time. All in all, the long distance from the city center has many obstacles to develop the logistics business in the park. The distribution time cost and transport cost will be the relatively important factor that needs to be seriously considered for the decision-makers of logistics enterprises when choosing the logistics park.

3.2.2.2 Weak Logistics Software Environment

The construction of modern logistics park is not just a hardware construction, but also the building of software and human resource. The fundamental characteristic of a modern logistics park should show a high degree of modernization in the process of design and process management. Such software construction is often more important than the hardware construction. Compared to developed logistics countries in the

[9] “*One day’s trip*” is one kind of methods that the enterprises take to avoid tax reasonably. According to China’s export policy, the import materials processing are implemented the policy of “no tax impose, no tax rebates”. In other words, the export parties don’t enjoy tax rebates for further processing materials which are from domestic suppliers and their import materials will not be imposed tax. In this situation, most enterprises require suppliers to export materials or parts to Hong Kong, Japan, South Korea, or other adjacent countries firstly. After getting the tax rebate, the enterprises import the materials and parts again aiming to further process, and then export the finished products to other countries.

world, China is in the initial stage of developing logistics park. Yang Shan Bonded Logistics Park should not only focus on large-scale investment in advanced logistics facilities, but also be oriented by business process management. In other words, it should not pay such more attention on functional management, product management, and inventory management. Instead, the key factors should be logistics process management, customer management and information management. These changes will basically lead to business processes reorganization and organizational structure reform. In short, process management can directly determine operating efficiency of the logistics park and promote mutual coordination with outside industries, all of which are key problems that Yang Shan Bonded Logistics Park should give full attention to. What's more, it is lacking of logistics talent in Shanghai even in china, especially interdisciplinary talents who are both proficient in information technology and modern logistics management. Logistics education and training should be an urgent need to resolve at present. Only with logistics professionals and senior management talents can Yang Shan Bonded Logistics Park play a vital role in the regional economic.

3.3 Analysis of External Environment

3.3.1 Opportunities Analysis

3.3.1.1 Superposition of Preferential Policies

The existing policies of bonded zone, export processing zones and bonded Logistics Park are adapted to Yang Shan Bonded Logistics Park, but implement more convenient customs clearance measures. The comparison between Yang Shan Bonded Logistics Park and other areas with custom's policy is listed in the following *Table 3.5*. It's the closest zone to the international Freeport among the domestic hub

ports and special monitored zones. Yang Shan Bonded Logistics Park has many special policies that have positive effect on international trade, for example, domestic cargo can receive duty drawback when they enter the bonded logistics park and value-added tax can be avoided if cargo trade happens in the logistics park. It not only can offer low-cost, high-efficient service to the customer, but also speed up the customs clearance process with convenient procedures. Yang Shan Bonded Logistics Park has the advantages of low-cost, high-efficiency and convenient custom clearance. For example, logistics enterprises in Yang Shan Bonded Logistics Park can complete all the custom procedures and distribute the nominated cargo to the processing plants around Shanghai or Pudong international airport after 4 hours receiving the customers' order.

The specific preferential policies are as follow:

- There are some kinds of goods that cannot be imposed tariff duty and import-duty, such as machines and capital construction material that the enterprises need and transport from overseas to the logistics park; producing equipments, and repair parts that the enterprises use by themselves and office supplies with a rational number.
- It implements bonded policy to the raw material, parts, components, packaging items and transshipment goods transported from oversea to the logistics park that enterprises process and then export to the foreign countries. The bonded policy also can be adapted to cargoes stored in the logistics park.
- It is unnecessary to impose value-added tax of the processing step in logistics park on products produced in the boned logistics park and transported to the foreign countries
- Products that are produced in the logistics park and delivered to the domestics market should be imposed tariff and import duty at the rate that how many

oversea materials are included in the products.

- Domestic cargoes that enter the bonded logistics park can be regarded as export cargoes and received duty drawback. When cargo enters the park, the enterprise can require the duty drawback with export drawback declaration documents issued by Yang Shan customs.
- Enterprises in the logistics park can open a foreign exchange account for regular program and an excluded foreign exchange account for capital program. And they cannot be restricted by foreign exchange control. The foreign exchange earnings of corporate can be retained totally, and the profits and dividends of foreign investors can be remitted abroad directly

3.3.1.2 Yang Shan Deepwater Port and Vast Hinterland

Yang Shan Deepwater port, approved by the State Council, has officially been operated on 10th, December, 2005, with the distance of only 56 sea miles from international routes and well water conditions of -15 m depth. At present, the closure custom area is 2.14 square meters. The Phase I, II of Xiao Yang Shan port have been completed and put into production one after another, and can serve for the fifth, sixth generation post-panamax container ships the whole day. At present, the port has already built 9 deepwater container berths with the capacity of 70,000 to 100,000 tons. The design throughout capacity is 4.3 million TEUs, while the actual capacity reaches 5.5 million TEUs. In addition, there are up to 3000 meters of terminal shoreline and 1400,000 square meters container yard, on which 34 gantry crane are busy working.

Table 3.5 Comparison between Yang Shan Bonded logistics park and other areas with custom's policy

Compare content	Yang Shan Bonded logistics park	Bonded area	Export process area	Boned logistics park
Container port function	Container hub port is in this region and the functions of logistics park and port are combined	No	No	Connect the container port with special channel
Custom monitor	Yang Shan custom have integrated port custom function and regional control function and responsible for the supervision of Bonded port	Port custom and Bonded area custom are separated While connect by the way of transit	Port custom and export process area custom are separated While connect by the way of transit	Port custom and logistics park custom are separated
Trade and logistics	Yes	Yes	No	Yes
Process and manufacture	Yes	Yes	Yes	No
Export duty drawback	Domestic cargo can receive duty drawback when they enter the Bonded logistics park	Domestic cargo can receive duty drawback when they go across the bonder	Domestic cargo can receive duty drawback when they enter the area	Domestic cargo can receive duty drawback when they enter the Bonded logistics park
Container value-added services	It can provide the value-added services such as container consolidation, transshipment, and container load and unload.	No	No	It can service for the container consolidation but the transshipment condition is limited.
Shipping Services	It can provide international sea transport service, ship or forward agent, ship management service, custom and inspection service and marine insurance service.	Limited	No	Limited
Multimodal transport	It have the direct condition to offer sea-rail transportation and inland waterways-sea transportation	No	No	Indirect and limited inland waterways-sea transportation
space	Large(6 Square kilometers at present)	Large(10 Square kilometers)	Small(normal 2 Square kilometers)	Small (normal 1 Square kilometers)

Besides, the phases III will construct 7 deepwater container berths along the 2600 meters shoreline with capacity from 70,000 tons to 150,000 tons. The design annual throughout capacity will reach 5000, 0000 TEUs. In the future plan, Yang Shan international deeper water port will have a 10,000,000 TEUs throughout per year. When all completed, there will be 52 container berths, including 33 large container berths, with a total throughput 15 million TEUs and the actual terminal capacity up to 22 million TEUs. The throughout forecasting curve of Yang Shan Deepwater Port is presented in *Figure 3.6*.

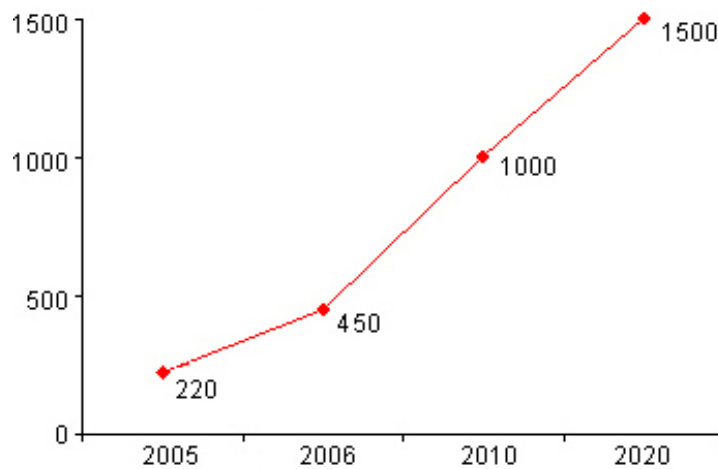


Figure 3.6 throughput forecasting of Yang Shan Deepwater Port (10 thousands TEUs)

Source: <http://www.shlingang.com/cn/overview/>

Shanghai and its hinterland Yangtze River Delta region, located in the meeting point of China's coastal economic belt and Yangtze River economic belt, are one of the regions that have international competitiveness and development potential that have active economic development potential and international competitiveness. Yangtze River Delta which consists of 16 cities and 81870000 demographic has already become the world's sixth largest city group, greatly contributing to national economic growth. Nearly one decade has witnessed a rapid development of this region to become China's largest integrated industrial zone, China's most important high-tech, machinery, automobile, chemical industry base. The economic importance of Yangtze River Delta can be emphasized in *Table 3.7*

Yang Shan deepwater port, as the type of hinterland hub port, is the international gateway of China's eastern coastal areas and the Yangtze golden waterway. The container cargoes through Yang Shan Bonded Logistics Park mostly are foreign import and export goods, which are transshipped between costal ports, ports along the Yangtze River and Yang Shan Deepwater port. Chongqing, Hunan, Hubei, Jiangxi, Anhui and other provinces and cities along the Yangtze River have large numbers of foreign trade containers cargo flowing in and out of Yang Shan Bonded Logistics Park by mean of “inland waterway – sea transportation”. All in all , the flourish economic in hinterland region has given large of new blood and provided Yang Shan Bonded Logistics Park with solid support to help it develop into an international logistics center.

Table 3.7 the economy development situation of Yangtze River Delta

Perfect City Group	<ul style="list-style-type: none"> • Yangtze River Delta has become the world's sixth largest city group with the total area of 100,000 square meters and The population of 81,870,000,including Nanjing,Zhenjiang,Yangzhou,Taizhou,Nantong,Suzhou,Wuxi,Changzhou, Hangzhou, Jiaxing, Huzhou, Ningbo, Shaoxing, Zhoushan and Shanghai
Advanced Regional Economy	<ul style="list-style-type: none"> • The Area of Yangtze River Delta accounts for 1% of the nation's total area, the population accounts for 6%, while GDP accounts for 24%. • GDP per capita of Yangtze River Delta amounted to 4,247 U.S. dollars, which are 1.16 times that of Pearl River Delta and 1.43 times that of Bohai economic zone. • Investment- oriented economy. The investment in fixed assets accounts for 35% of the country's investment. The actual utilization of foreign investment accounts for 40% of that of the country. • Developed foreign trade. The total import and export volume accounted for 35% of that of the country.
High-tech Oriented Industry Environment	<ul style="list-style-type: none"> • Yangtze River Delta is the largest integrated industrial zone of china and also the industry base of High-tech, machinery, automobiles, and chemicals. • High-tech industries are particularly outstanding, such as Microelectronics, fiber-optic communications, bio-engineering and so on. Shanghai, Wuxi and Guangzhou have been identified as National IC Design Industrial Base • Regarding traditional industries, Yangtze River Delta has a mature industry chain and professional markets. such as petty commodity, plastic, metal, textile

3.3.1.3 Multi-industrial Clustering

Yang Shan Bonded Logistics Park is one of the four modern logistics parks that the Shanghai government focuses on planning and developing. Lin Gang Non-Bonded Logistics Park has already taken shape, together with Yang Shan Bonded Logistics Park, forming great advantages that bonded and non-bonded logistics, international

and domestic logistics cooperate with each other respectively. The unique competitive advantage mainly embodied in the form of organic interaction between bonded and non-bonded business, through which, the major infrastructure like container railway marshalling station, port support operation zone and inland waterway transshipment zone, can fully play their roles and effectively realize multimodal transport aiming to link the inland logistics with port logistics as well as achieve the goal of joint development of logistics parks, equipment industrial parks and urban areas.

The main industrial parks, adjacent to Yang Shan Bonded Logistics Park, compose of Heavy Equipment Zone, Central Industrial Zone, High-technology Park and Harbor New City. (See Figure 3.8) A number of large equipment manufacturing projects at home and abroad have been settled in Yang Shan Bonded Logistics Park and The industrial parks, expanding development space for manufacturing and logistics services. Heavy Equipment Zone, a second industry-oriented zone, is an important part of state-level modern equipment industry park, with the total area of 36 square kilometers. According to the strategic plan, six major manufacturing bases will be constructed, namely "heavy, large, ultra" equipment base, ship's key supporting components manufacturing base, automotive vehicle bases, logistics equipment base, rail transportation equipment manufacturing and maintenance base and common support equipment manufacturing base. Central Industrial Zone, with the total area of 101.6 square kilometers, is focusing on developing the industries of photoelectric instrument, IT manufacturing, automotive components, aviation parts and general machinery and equipment. High-technology and High-industries Park is an important supplement to the state-level modern equipment industry park in terms of functions, and its key business is high-tech industries and outsourcing services, in particular, regarding the chemical technology, new materials, robotics and new

energy industries. At the same time, the development trend is to be the source of technological innovation source of state-level equipment manufacturing base and to provide the high-tech industries with research and outsourcing services.

Since Yang Shan Bonded Logistics Park was put into operation, port bonded logistics business is accelerated to gather, which attracts Chinese and foreign investors' keen concern. 44 well-known Chinese and foreign enterprises have registered in Yang Shan Bonded Logistics Park to the first half of 2007, such as CMA-CGM, YCH, CMST, Prologis, Mapletree and Sterigenics. The total registered capital is about 7.6 billion Yuan. The business expand to shipping, third-party logistics, trade, freight forwarding, customs, insurance, financial and others directly involved in logistics services or providing support to logistics services. In the "2007 Yang Shan Bonded Logistics Park introducing meeting" on 15th June, 2007, there are another 9 shipping logistics companies and third-party enterprises including Maersk Logistics and Philips logistics, successfully signed the contracts with Yang Shan Bonded Logistic Park to develop logistics services.

In conclusion, Yang Shan Bonded Logistics Park will regard modern bonded logistics as the main body and speed up industrial clustering in order to build a competitive industries cluster based on the container hub port and characterized with bonded value-added services. Specifically, the park has promoted the extension of logistics industry and driven manufacturing and other service industry development by means of scale economy. Regarding the industrial layout, professional logistics base has been gradually formed with the characteristics of auto parts logistics, electronic products logistics and medical products logistics; modern outsourcing logistics base is oriented by third-party logistics services; port value-added logistics base mainly opens the business of international procurement, distribution and

allocation. By the advantage of multi-industrial clustering, Yang Shan Bonded Logistics Park has attracted a number of shipping logistics, third party logistics, and multinational corporations' logistics programs, which will generate huge opportunities for the park to develop into an international logistics center.



Figure 3.8 Planning maps of Lingang Industrial parks

Source: <http://www.lgxc.gov.cn/aboutus/plan.htm>

3.3.2 Threats Analysis

3.3.2.1 Tremendous Development Risks

The development risks of Yang Shan Bonded Logistics Park mainly lie on the following two aspects. On the one hand, it is the conflict between the social benefits of logistics park development and the land development benefits. In accordance with the detailed planning of Yang Shan Bonded Logistics Park, excluding roads, rivers and green space, transportation and warehousing space account for more than 80 percent of the total logistics park space. Whether can its operating income make balance with the land development cost and no one can guarantee that the actual benefits of land development and its sustainable development. On the other hand, the overall planning of logistics park may be challenged by actual investors. The original plan of Yang Shan Bonded Logistics Park intends to reflect the high efficiency, fluency and resources sharing of modern logistics, which is achieved on the basis of overall development and unified construction. However, in the actual development process, it is impossible to complete by only one or two enterprises. As China's modern logistics industry is in the initial stage, professional division level of the logistics industry is very low. It is inevitably to be a fragmented situation, If take the method of attracting land investment, which will be difficult to play overall function of Yang Shan Bonded Logistics Park.

3.3.2.2 Strong Competitors

Shanghai Wai Gaoqiao Bonded Logistics Park, as the first region that implements the policy of interaction with port and logistics park, is the biggest competitor of Yang Shan Bonded Logistics Park at present. The Park, close to Phase III of Shanghai Wai

Gaoqiao Container Terminal, has put into operation in July 2004, with the total area of 1.03 square kilometers and a total investment of 2.8 billion Yuan. To the end of 2005, it will build modern warehouses of 700,000 square meters, container transshipment of 150,000 square meters, business centre of 20,000 square meters, government monitoring platform of 9,000 square meters and advanced hardware and software facilities. And the annual integrated container handling capacity of Wai Gaoqiao Bonded Logistics Park will reach up to 1 million TEUs. Wai Gaoqiao Bonded Logistics Park has attracted amounts of domestic and foreign investors by means of policy advantages and advanced supporting service. Most of the registered enterprises are transnational purchasing enterprises, international shipping groups and third-party logistics companies, among which, the famous ones are MOL, OOCL, C.Steinweg, Alps Logistics and KWE. The major cargoes in and out of Wai Gaoqiao Bonded Logistics Park are electronic products and the related businesses are opened such as general trade export and further processing. What's more, Wai Gaoqiao Bonded Logistics Park also has initially achieved the functions of export procurement and alternative "one-day's trip".

After years of development, the surrounding roads of Wai Gaoqiao Bonded Logistics Park are always high-quality and extend in all directions. The park is only 30 minutes' car journey to Shanghai People's Square. In addition, Pudong New Area where the logistics park is located in also has many development areas like Jinqiao Processing Zone and Zhangjiang High-technology Zone. Most of China's bonded logistics projects are "one-day's trip" and their derivative products. The direction of cargo flow is from China back to China with few port operations. Therefore, from the aspect of "one-day's trip" business, Wai Gaoqiao Bonded Logistics Park will be the best choice, while powerful advantages of Yang Shan Bonded Logistics Park can not be figured out. What's more, Pudong International Airport Logistics Park and

Northwest Integrated Logistics Park and some logistics park overseas in northeast Asia also are the competitors of Yang Shan Bonded Logistics Park.

3.4 SWOT Analysis

According to the above study, the internal environment (strength and weakness) and external environment (opportunity and threat) of Yang Shan Bonded Logistics Park are presented by SWOT analysis to rapidly move towards an agreed strategy. The specific advantage and disadvantage factors are in the following *Table 3.8*. In short, based on the SWOT analysis of developing environment, it is clear that there are both positive and negative factors influencing the development of Yang Shan Bonded Logistics Park. But overall, strengths and opportunities are more than weakness and threats. Therefore, it needs to establish accurate strategic positioning on the developing functions, which will help Yang Shan Bonded Logistics Park facing challenges and overcoming obstacles, and then the park will have a bright tomorrow.

Table 3.9 SWOT analysis of Yang Shan Bonded Logistics Park

Strengths	Weakness	Opportunities	Threats
Geographical advantages and advanced traffic system	Long transport distance	Superposition of preferential policies	Tremendous development risks
Integrated regional functions	Weak logistics software environment	Yang Shan deepwater port and vast hinterland	Strong competitors
Perfect Supporting Facilities		Multi-industrial clustering	

Chapter Summary

This chapter mainly study on the development environment of Yang Shan Bonded Logistics Park. In the one hand, its developing strengths lie on three aspects. Firstly, Yang Shan Bonded Logistics Park enjoys unique geographic advantage and advanced traffic system. Secondly, Yang Shan Bonded Logistics Park has all the functional features of container hub port, bonded zone, export processing zones and bonded logistics park. Lastly, perfect supporting facilities also strengthen the competitive advantage of Yang Shan Bonded Logistics Park. Moreover, the weakness factors are long transport distance and weak logistics software environment. In the other hand, analysis of external environment is equal important to analysis of internal environment. Opportunities that Yang Shan Bonded Logistics Park has are including superposition of preferential policies, vast hinterland and multi-industrial clustering. What's more, the threats of Yang Shan Bonded Logistics Park mainly lie on the following two aspects. One is that tremendous development risks may lead to high cost waste. The other is that Wai Gaoqiao Bonded Logistics Park is the biggest competitor of Yang Shan Port Bonded Logistics Park and seriously threatens the development of Yang Shan Bonded Logistics Park.

4 Strategic Objectives and Developing Functions

4.1 Strategic Objectives

It is important and valuable to pay more attention on Yang Shan Deepwater Port due to the need of Shanghai international shipping center establishment. Its strategic objective accordingly is to become the representative of world advanced port, that is, to be the third generation port based on the modern logistics center and to be the resource-based hub port which integrates international commodities, capital, information and technology into the port itself. With the high-speed development of economy, information and modern logistics, the function expansion step of Yang Shan Deepwater Port will be based on port function radiate area aiming to build a port network and Yang Shan Deepwater Port will be the focus of international container port in northeast Asia, playing the role of processing and delivering logistics and information flow in the reticulate logistics chain which extends all the directions.

Yang Shan Bonded Logistics Park is the first offshore logistics park serving for the container port in China. Its strategic objective is to build it into high effective, low-cost, sustainable developing and modern logistics park model to match the third generation port, which includes as following:

- ***Connection with the port inland.*** Strengthen the communication between port and inland area; make full use of the comprehensive functions of Yang Shan Deepwater Port; expand the port's ability to centralize, absorb, radiate and pull regional economy inward and outward to a maximum extent.
- ***Balance ability of logistics chain.*** Plan and utilize the resources and advantages of logistics park itself and regions all round; balance the ability of Yang Shan

network logistics chain based on Ling Gang new city; increase the logistics elasticity to realize the sustainable development of the whole system including Yang Shan Deepwater Port, Donghai bridge, Lin Gang city and logistics park;

- ***Being a logistics hub.*** Form an hinge which combine the commodity flow, capital flow, service flow and information flow and make efforts to speed up logistics deliver and information exchange as well as to control the cost in reason.
- ***Innovation of custom inspection.*** Implement innovate customs control model to integrate the functions of domestic bonded zone; export processing and bonded logistics park into Yang Shan Bonded Logistics Park. According to the international rules and considering china's national conditions, policy breakthroughs have been achieved regarding custom, tax, commodity inspection and foreign exchange management. Integrated logistics information platform will be built, which facilitate the information process about custom control, government management and enterprise operation. In the light of international practices in a free port, Yang Shan Bonded Logistics Park is on the road to build international commerce and industry environment, transparent and convenient government policies, free foreign exchange system and a competitive tax system.

4.2 Developing Functions

The core value of Yang Shan Bonded Logistics Park is that it is a logistics hub of Asia-Pacific and a logistics gateway of China. Its short-term function positioning is to become Asia-Pacific distribution centre and multi-national freight consolidation center to play the function of bonded processing. And the long-term function is designed to cooperate with Yang Shan Deepwater Port to make it become the free port with free logistics, capital flows and trade flows. Various service functions in

Yang Shan Bonded Logistics Park are provided to give customers most convenience. To this end, Yang Shan Bonded Logistics Park will take measures to reduce the cost for enterprises in all aspects of transportation, land, warehousing, human resources, commodity inspection and customs clearance. What's most important is to encourage enterprises to actively develop international transshipment, international distribution, international procurement, and international re-export trade, and at the same time the logistics park will provide attractive services like international financial, trade fairs, information and so on. In the following, the developing functions of Yang Shan Bonded Logistics Park will be presented in details.

4.2.1 Port Inland Auxiliary Operation

Yang Shan Deepwater Port stays away from land, and port operations area is formed by sea reclamation. In order to save investment and rational make use of land resources, some auxiliary operations of container port have been moved into Yang Shan Bonded Logistics Park. So the function of port inland auxiliary operation is becoming one of the basic functions of Yang Shan Bonded logistics park including container loading and unloading, some dangerous cargo container storage, container multimodal transshipment, container cleaning and repairing and other services, which can remedy the disadvantage of limited land area aiming to reduce the cost of sea reclamation project around Yang Shan Island.

4.2.2 Offshore Port Inspection Function

Offshore port inspection is also one of the basic functions of Yang Shan Bonded Logistics Park, including the control and monitor of customs, inspection and quarantine, frontier inspection and marine authority. Due to the special location and the large scale of customs and inspection that require relative large area to service

these port inspections, it's necessary to centralize them in the logistics park, which not only solve the problem of land requirement, but also simplify the process by guarding the end of the bridge. According to the requirements of modern customs system and developing functions of the Yang Shan Deepwater Port, Yang Shan Bonded Logistics Park should make full use of information technology and learn from the advanced management methods of the world's free port to implement the control model of "open up the front line, control the second line and free in the park" for the cargos in and out of Yang Shan Bonded Logistics Park. Furthermore, in the process of developing advanced management pattern, the inspection departments such as customs are also responsible for the control and monitor of cargo in, out and at special area as well as the people and vehicle in and out free trade zone.

4.2.3 The Three-dimensional Multimodal Transport Hub Service

According to the predominant conditions and the developing trend in the future, it's imperative to develop multimodal transportation under this situation, which is really an economic, reasonable, speedy, safe, and convenient transport service pattern. Yang Shan Bonded Logistics Park has set up a rail container station as well as an inland water terminal inside, which generates the prerequisites to development the function of transshipment hub of container multimodal transport. Yang Shan Deepwater Port should build a developed inland transportation network connected with hinterland, which consists of railway, road, inland waterway and air transportation. Among all the transportation methods, sea-rail transportation will be the most recommended one to serve the long-distance inland transportation in the near future by its large amount of transport volume, lower cost, safety and wide covering area. Therefore, it's important to position the transportation mode of linking

sea and railway, which is helpful to develop the perfect inland transportation system in Yang Shan Bonded Logistics Park

4.2.4 Integrated Value-added Logistics Services

Along with the development of specialized logistics enterprises, the logistics resources organizers tend to provide integrated and high-quality logistics services in terms of warehousing logistics, processing and manufacturing and other integrated value-added logistics services. Yang Shan Bonded Logistics Park develops its logistics warehouse functions in the form of warehouses, freight station and yard. In addition, due to the special preferential policies, import foods and domestic goods can be processed and assembled in the logistics park before exported. (If sold to the domestic market, it should be in accordance with the regulations for import procedures). There is no need to pay value-added tax for the products processed in Yang Shan Bonded Logistics Park. What's more, various integrated value-added logistics services can be carried out comprehensively in the logistics park, like international transshipment, international distribution, international procurement, international re-export trade and other value-added services. All in all, Yang Shan Bonded Logistics Park, as a multimodal logistics hub, can use the convenient inland transport network channels to server for the international and hinterland logistics, and make efforts to attract the diversity of the logistics sources covering various industries, which consist of raw materials suppliers, manufacturers, retailers, distributors, third-party logistics enterprises as well as high-tech processing logistics enterprises.

4.2.5 Logistics Information Hub Service

At present, Lin Gang new city aims to build an omni-directional digital port city by various channels to collect all kind of information. Yang Shan Bonded Logistics Park, as the offshore port auxiliary logistics park, should unify its functions with the Lin Gang new area to avoid repeat construction. Therefore, under the premise of building digital city, logistics park's information service functions should focus on its information hub concept. The traditional service model of central information platform should be changed into a divergence hub for information flow. With the assistant of information database of the digital port city, Yang Shan Bonded Logistics Park will have an organic link with customers and logistics enterprises by the support of communications infrastructure and computer information systems. Through information collection, storage and release, this platform can provide real-time cargo information, road information, transportation information, logistics pricing information, economic and geographical information, relevant policies and regulations management information and e-commerce to achieve transparency in the management of logistics

4.2.6 Logistics Park Ancillary Services

Logistics system operation is the coordination of logistics, cargo flow, information flow, capital flow and passenger flow. Modern logistics requires the coordinated development of related industries such as communications, financial, insurance, hotels, restaurants as well as legal services, among which, provision of bank and insurance service is the key step. It can provide financial intermediation, letters of credit business, credit guarantee and transport and insurance services for enterprises in the logistics park when they do foreign trade transactions and transportation activities. In order to improve the operation and management efficiency, Yang Shan

Bonded Logistics Park plans to increase these ancillary services to provide the whole park with financial services to cooperate with international re-export trade and international procure function and increase the trade and commodities display place.

4.2.7 Free Trade Services with China's Characteristics

Yang Shan Bonded Logistics Park should form a special economic region, which is based on bonded zone mode, while has a free-trade zone nature. These new modes links the bonded trade zone with the international container port, and then form the situation of geographical region integration, economic interests integration, policies and regulations integration, port management integration and logistics services integration. What's more, it will provide great convinces low-cost logistics service with import and export trade and international transshipment trade that can increase the port attractions on oversea containers. All of these will make Yang Shan Bonded Logistics Park become a unique free trade zone with China's characteristics.

Chapter Summary

Since we have learned where the strengths and weakness of Yang Shan Bonded Logistics Park are, strategic initiatives should be made to clarify its developing directions. Therefore, the strategic objectives and developing functions have been given in this part on the basis of influencing factors analysis. The strategic objectives are including four aspects: connection with the port inland, balance ability of logistics chain, being a logistics hub and innovation of custom inspection. And the developing functions consist of seven factors, namely port inland auxiliary operation, offshore port inspection function, the three-dimensional multimodal transport hub service, integrated value-added logistics services, logistics information hub service, logistics Park ancillary services and free trade services with china's characteristics.

5 Evaluation on Developing Functions by AHP-Fuzzy Model

Since Yang Shan Bonded Logistics Park is an important construction project of Shanghai International Shipping Center, developing functional assessment for it becomes such an essential step that should not be ignored. The key point of the evaluation system is to set up scientific evaluation index, and evaluation index is various from the evaluation content, purpose and different stages of the project. The index system of this chapter is mainly set by the developing functions of Yang Shan Bonded Logistics Park which came into the operational phase at the end of 2005, in order to reflect development prospects of Yang Shan Bonded Logistics Park objectively and comprehensively.

5.1 The Model of Analytic Hierarchy Process (AHP)

5.1.1 Establishment of Comprehensive Evaluation Indicators System

5.1.1.1 The Principle of Evaluation Indicators System Establishment

The choice of indicators is not only the basis of evaluation, but also the key factor to evaluate the results. When setting rational evaluation index system, we should scientifically analyze the functional development of logistics park. Evaluation index system should adhere to the following principles.

- ***The principle of objectivity.*** The purpose of evaluating is to understand the current development level of Yang Shan Bonded Logistics Park, and then park operators will make decisions based on the evaluating results and decide how to operate the park in the next step in order to gradually expand the park's function

and eventually achieve the strategic goal of the initial plan. Because the objectivity of evaluation has impact on the correctness of the decision-making, the indicators should be chosen to represent the level of development based on objective reality.

- ***The principle of comprehensiveness.*** The comprehensiveness of evaluation indicators refers to that indicators should be consistent with the purpose of the logistics park operation, and fully reflect the functions of logistics park development. The function development of Yang Shan Bonded Logistics Park performs in many ways, so all these factors should be considered and avoid the situation that only considering part of those leading to inaccurate results. Therefore, the indicators chosen can not be missed or repeated. We must select multiple indicators in a number of ways to ensure the comprehensive and scientific evaluation of logistics park

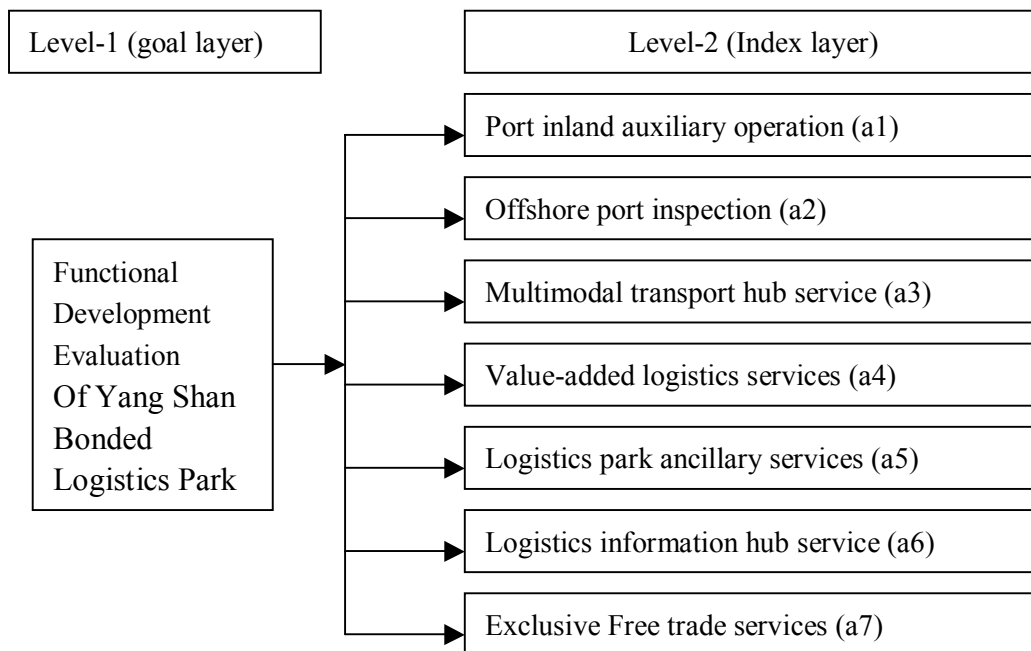
- ***The principle of feasibility.*** Evaluation indicators should be feasible, and then the evaluation results will be of practical significance. The choice of targets should be adopted by unified evaluation criteria to make an independent evaluation in the practical application of evaluation process.

5.1.1.2 Composition of Yang Shan Bonded Logistics Park Functional Development Evaluation System

It's a systematic project to design the function of Yang Shan Bonded Logistics Park. The inherent requirements of systematic engineering are to a multi-functional evaluation index system with the scheduled development. According to the above principles of constructing an evaluation system and with the analyzed developing

functions of Yang Shan Bonded Logistics Park in Chapter 4, the paper establishes the functional development evaluation index system of Yang Shan Bonded Logistics Park. The structure is composed of seven aspects which are listed in *Table 5.1*

Table 5.1 Evaluation index system of Yang Shan Bonded Logistics Park



5.1.2 Determination of Index Weight

Step 1: Build Pair-wise Comparison Matrices

According to the AHP that T. L. Saaty develops, the pair-wise comparisons are done in terms of which element dominates the other. Suppose A is the matrix, matrix element a_{ij} is the influence factor a_i divided by a_j , thus matrix elements are

$$A = (a_{ij})_{n \times n} \quad i \neq j. \quad i, j = 1, 2, 3, \dots, n. \quad a_{ij} = 1 \quad a_{ji} = \frac{1}{a_{ij}}$$

The entry in row i and column j of A , labeled a_{ij} , indicates how much more (or less) important objective i is than objective j . “importance” is measured on an integer-value 1-9 scale with each number having the interpretation shown in following *Table 5.2*

The result of pair-wise comparison usually relies on subjective judgment. In this case, 50 experts are invited to give their opinions and compare each pair of two indexes independently. These experts are from logistics park operators, logistics park investors; Yang Shan deepwater port, academia and logistics companies that have registered in Yang Shan Bonded Logistics Park such as shipping lines, freight forwarding companies and trading companies. Those experts have knowledge and experience in business regarding Yang Shan Bonded Logistics Park. Then all the comparison results made by different experts are integrated by the method of geometrical mean.

Table5. 2 Pair-wise comparisons for AHP preferences

Numerical rating	Verbal judgments of preferences
1	Equally preferred
2	Equally to moderately
3	Moderately preferred
4	Moderately to strongly
5	Strongly preferred
6	Strongly to very strongly
7	Very strongly preferred
8	Very strongly to extremely
9	Extremely preferred

Source: Saaty, 1990; Saaty and Kearns, 1991)

Base on the above research and calculation, the pair-wise comparison matrix can be identified in the following

$$A = \begin{pmatrix} 1 & 3 & 3 & 1 & 5 & 7 & 5 \\ 1/3 & 1 & 1 & 1/3 & 2 & 4 & 2 \\ 1/3 & 1 & 1 & 1/3 & 2 & 4 & 2 \\ 1 & 3 & 3 & 1 & 5 & 7 & 5 \\ 1/5 & 1/2 & 1/2 & 1/5 & 1 & 2 & 1 \\ 1/7 & 1/4 & 1/4 & 1/7 & 1/2 & 1 & 1/2 \\ 1/5 & 1/2 & 1/2 & 1/5 & 1 & 2 & 1 \end{pmatrix}$$

The rows and columns of A each correspond to the functions of Yang Shan Bonded logistics park: Port inland Auxiliary operation, Offshore port inspection, Multimodal transport hub service, Value-added logistics services, Logistics Park ancillary services, Logistics information hub service, Exclusive Free trade services.

Step 2: Normalized Pair-wise Comparison Matrices

Although the ideas behind AHP are fairly intuitive, the mathematical reasoning required to derive the weights for the objectives is quite advanced. The first thing we should do is to normalize Pair-wise Comparison Matrices A. A new matrix A_{norm} will be generated by the way that each of the columns of A divide each entry in the column by the sum of the entries in the column.

$$A_{\text{norm}} = \begin{vmatrix} 0.3116 & 0.3243 & 0.3243 & 0.3116 & 0.3030 & 0.2593 & 0.3030 \\ 0.1039 & 0.1081 & 0.1081 & 0.1039 & 0.1212 & 0.1481 & 0.1212 \\ 0.1039 & 0.1081 & 0.1081 & 0.1039 & 0.1212 & 0.1481 & 0.1212 \\ 0.3116 & 0.3243 & 0.3243 & 0.3116 & 0.3030 & 0.2593 & 0.3030 \\ 0.0623 & 0.0541 & 0.0541 & 0.0623 & 0.0606 & 0.0741 & 0.0606 \\ 0.0445 & 0.0270 & 0.0270 & 0.0445 & 0.0303 & 0.0370 & 0.0303 \\ 0.0623 & 0.0541 & 0.0541 & 0.0623 & 0.0606 & 0.0741 & 0.0607 \end{vmatrix}$$

Step 3: Estimate the weight for criterion

The weight for each objective i , namely W_i , is the average of the entries in row i of A_{norm} . Averaging these numbers should give a good estimate of the proportion if the total weight given to each objective.

$$W = | 0.3053 \quad 0.1164 \quad 0.1164 \quad 0.3053 \quad 0.0611 \quad 0.0344 \quad 0.0611 |$$

5.1.3 Consistency Checking

Any pair-wise comparison matrix can suffer from inconsistencies. In order to prevent judging matrix to deviate consistency influence eventually decision we need to describe a procedure to check for inconsistencies. The inspection process applied in pair-wise comparison matrix mainly has three parts as follows:

(1) Calculate λ_{max} The characteristic of the judgment matrix is that it only has one biggest characteristic root which is positive and the single root of characteristic equation. The biggest characteristic root λ_{max} refers to the ratio of each element of AW to the corresponding weight in W and averages these ratios. The formulation is as follows:

$$\lambda_{max} = \sum_{i=1}^n \frac{(AW)_i}{nW_i} = 7.03988$$

(2) Compute the consistency index CI. Where n is the number of objectives. And in this case, n equals 7.

$$CI = \frac{\lambda_{max} - n}{n - 1} = 0.006647$$

(3) Calculate the consistency ratio CR. Firstly, appropriate value RI should be selected from random consistency index which is shown in *Table 5.3*, and then we compare CI to the random index RI for the appropriate value of n. the calculation is that $CR = CI / RI$. Saaty suggested that if the result $CR < 0.01$, then the degree of consistency is satisfactory and the judgments are acceptable. Whereas if $CR = CI / RI > 0.10$, serious inconsistencies exist and AHP may not yield meaningful results. In this case, $CR = CI / RI = 0.006647 / 1.32 = 0.005035$, which is much less than 0.10. Therefore, the pair-wise comparison matrix A of Yang Shan Bonded Logistics Park does not exhibit any serious inconsistencies.

Table5.3 Consistency index RI

n	1	2	3	4	5	6	7	8	9	10	11	12	13
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.52	1.54	1.56

Source: Saaty, 1980, 1985, 1990. Saaty and Kearns, 1991.

5.2 The Model of Fuzzy Comprehensive Evaluation

5.2.1 Definition

Step1: Influence factors Set

The set of every factor affected evaluation called influence factors set. Suppose $U = \{U_1, U_2, U_3, U_4, U_5, U_6, U_7\}$, U_i expresses 7 factors in index layer. $U = \{ \text{Port inland Auxiliary operation, Offshore port inspection, Multimodal transport hub service, Value-added logistics services, Logistics Park ancillary services, Logistics information hub service, Exclusive Free trade services} \}$

Step 2: Evaluation set

The set of evaluation results probably called evaluation set. Let $V = \{V_1, V_2, V_3, V_4, V_5\}$ V_i expresses that how well each functional index performs. $V = \{ \text{the best condition, the better condition, the average condition, the worse condition, the worst condition} \}$

Step 3: Judgment matrix

In order to determine these performances, Five score standard (*See Table 5.4*) is used to quantify all the evaluation indexes. By adopting the Delphi method as step 1 of Determination of Index Weight, the same 50 experts are required to evaluate and each index is assigned a score. After integrating the experts' opinions by the same geometrical mean method, the judgment matrix R will be obtained.

$$R = \begin{pmatrix} 0.54 & 0.18 & 0.18 & 0.06 & 0.04 \\ 0.12 & 0.16 & 0.32 & 0.28 & 0.12 \\ 0.08 & 0.20 & 0.38 & 0.24 & 0.10 \\ 0.24 & 0.20 & 0.22 & 0.16 & 0.18 \\ 0.18 & 0.30 & 0.26 & 0.12 & 0.14 \\ 0.20 & 0.28 & 0.30 & 0.10 & 0.12 \\ 0.16 & 0.20 & 0.20 & 0.28 & 0.16 \end{pmatrix}$$

Table 5.4 Five scores standard

Grade	Requirement	Score
V ₁	The best condition	5
V ₂	The better condition	4
V ₃	The average condition	3
V ₄	The worse condition	2
V ₅	The worst condition	1

Step 4: Fuzzy Weight

Base on the importance of every factor in each layer, we give a corresponding weight for each factor. The fuzzy weight has just been given in AHP model, namely

$$W = | W_1 \ W_2 \ W_3 \ W_4 \ W_5 \ W_6 \ W_7 |$$

$$= | 0.3053 \ 0.1164 \ 0.1164 \ 0.3053 \ 0.0611 \ 0.0344 \ 0.0611 |$$

5.2.2 Fuzzy Comprehensive Evaluation

The fuzzy comprehensive evaluation process is that the judgment matrix R is carried out fuzzy operation with the fuzzy weight matrix W, and then we can get evaluation set. Thus The fuzzy comprehensive evaluation model:

$$B = W^0 R = | 0.2890 \ 0.3224 \ 0.4056 \ 0.3440 \ 0.1624 |$$

B indicates the score vector in each grade rating in the formula. In order to get the comprehensive quantitative scores of Yang Shan Bonded Logistics Park functional development, we can process the above result using the following formula.

$$N = \frac{\sum_{j=1}^5 (bj^2 \times vj)}{\sum_{j=1}^5 bj^2} = 3.201277$$

Where b_j express the vector j of B , $j=1, 2,3,4,5$. And N expresses the final score of Yang Shan Bonded logistics park development. In this case, the score is 3.201277 which demonstrate that the overall performance of Yang Shan Bonded Logistics Park is at the medium developing level.

5.3 Results and Analysis

As seen in the evaluation result of the above model, several points regarding functional development of Yang Shan Bonded Logistics Park can be pointed out. In the first place, from the matrix gained by the experts, we can get that port inland auxiliary operation and value-added logistics services are the two main functions of Yang Shan Bonded Logistics Park, respectively account for 30% of the total weight. Under the current developing situation of limited resource, the relative important functions should be put in the first place. That is, we should pay more attention to develop the port operation and logistics service. In the second place, it's clear that the targeted functions of Yang Shan Bonded Logistics Park are at different developing level from the evaluation results. Port inland auxiliary operation, as the basic function of offshore logistics park, have a positive trend with the increasing throughout of Yang Shan Deepwater Port and successfully provide various auxiliary services for the container terminal which is in the Yang Shan Island. According to the evaluation, more important is that although Yang Shan Bonded Logistics Park has many preferential policies that other economic zones can not enjoy, its implementation is relative low which demonstrates that the different departments have been working dependently and not followed the policies closely , which is the biggest obstacle of functional development of Yang Shan Bonded Logistics Park. Besides, due to the long distance from city centre and the type of current logistics cargo flow in shanghai the performance of Yang Shan Bonded Logistics Park as a

multimodal hub also can not satisfy us. For these problems, we should take some actions to improve the functional development of Yang Shan Bonded Logistics Park. Finally, the overall performance of Yang Shan Bonded Logistics Park is at the medium level and it has huge potential to development because of the government's support and container port's push. The market environment has a vital influence on the implementation of designed functions, so the strategic measures can be adjusted with the development situation to achieve the final objectives of Yang Shan Bonded Logistics Park.

Chapter Summary

As described in this chapter, an AHP-Fuzzy model was established to evaluate the functional development of Yang Shan Bonded Logistics Park. Evaluation index system of sustainable functional development indicators and its implications were presented and further fuzzy method was used to analyze the development level of Yang Shan Bonded Logistics Park on the basis of quantization. Finally, based on the application of mathematic model, conclusions are drawn in terms of relative important functions, existing problems and overall performance. Firstly, we can get that port inland auxiliary operation and value-added logistics services are the two main functions of Yang Shan Bonded Logistics Park due to their large proportions of the total weight. Secondly, the low scores indicated that Yang Shan Bonded Logistics Park has ineffective implementation of preferential policies and a long distance disadvantage of under present situation of shanghai logistics market. At last, however, the high overall score has identified that Yang Shan Bonded Logistics Park also has huge developing potential which need us to push effective measures mining.

6. Development Suggestions

6.1 Improve International Transshipment Volume

Compared to Wai Gaoqiao Bonded Logistics Park which is near the center of Shanghai city, the long distribution distance problem of Yang Shan Bonded Logistics Park may not be alleviated in a period of time, which also may be the main reason that although Yang Shan deepwater port always has the busy scene, Yang Shan Bonded Logistics Park is silent at present. Because domestic bonded logistics projects are "one-day's trip" and its derivative products, very few of which are necessary to deal with port operation. The purpose of those "one-day's trip" goods that are not sent to Hong Kong is to reduce the transportation freight as possible. From this aspect, Wai Gaoqiao Bonded Logistics Park has plenty of functional ability to meet this requirement.

In this situation, only maximize the international transshipment volume and distribution business can the bonded warehouse of Yang Shan Bonded Logistics Park be value for money. At the same time, only in this way can we remove the title of hinterland port of Shanghai port and make it become a true economic center. However, all of us know the embarrassment situation: Even taking into account other Shanghai terminals, the total volume of international transshipment of Shanghai port remains at a low level of 2%. Under such circumstances that the low-transshipment situation is difficult to improve quickly, the government can plan numbers of bonded transport road, common information platform and other channels connecting Yang Shan Bonded Logistics Park with other industry park in order to stimulate the development of heavy equipment park and other main industrial areas, then

indirectly develop the logistics business of Yang Shan Bonded logistics park, which will be a feasible measure that benefit Yang Shan Bonded logistics park at present.

6.2 Introduce more Logistics Enterprises

Currently there are almost no large-scale bonded logistics projects operated in Yang Shan Bonded Logistics Park. As known, This Bonded Logistics Park has been completed more than 50 million square meters of warehouses, and more than 70 million square meters of logistics warehouses are speeding up to construct. Opening up the registered list of enterprises, it is clear that most of the companies are well-known enterprises that have outstanding real state business, such as Prologis, Mapletree and CMST. “It’s cheap when Yang Shan Bonded Logistics Park starts to operate. Appreciation is only a matter of time. These enterprises clearly intend to enclosure” One Senior Real Estate broker says.

In order to make Yang Shan Bonded Logistics Park play its proper functions, the urgent thing is to attract more logistics enterprises registered in the park, so as to promote its logistics services function and become the real logistics centre. In addition to vigorously promote Yang Shan Bonded Logistics Park with preferential policies and development capabilities, it is particularly important to provide innovation customer services. First of all, we should provide the cargo-owner enterprises with long-term, professional and highly efficient integrated logistics services. In other words, logistics services should be featured by comprehensiveness and integration. Secondly, logistics services should meet the needs of individual consumption and personalized services. Thirdly, according to supply chain requirements of key customers, we must constantly improve the comprehensive skills, integrated technology, strategic design and expansion of the global supply

chain logistics capabilities as well as reengineering of business process. All in all, various efforts should be made to introduce logistics enterprises into Yang Shan Bonded logistics park so as to form the core competitiveness of Yang Shan Bonded Logistics Park development.

6.3 Strengthen the cooperation between different departments

In this region with the most liberal policy, the problem that whether the preferential policies can be implemented effectively seems especially dazzling. In theory, Yang Shan Bonded Logistics Park has the policy of bonded processing, offshore finance, international trade and other preferential policies which other bonded logistics parks don't have. However, Yang Shan Bonded Logistics Park has no successfully operating precedent, nor has the economies of scale. In this situation, who are willing to become a test of the mouse? These preferential policies do not generate more attractive. Moreover, even if some companies have the initial intention, when they consult to the relevant departments, they find that different departments do not have much experience in cooperation. It is vague for the staff of government department that what's the procedures and methods of unified handling the taxes, customs and so on as well as how to establish computer networking and monitoring systems. Finally, the special financial policies of Yang Shan Bonded Logistics Park are related to China's foreign exchange management system, there is no fundamental breakthrough on this issue until now. Policy makers are puzzled by two major problems: Firstly, how much will the offshore financial businesses be, secondly, how to control the financial risks brought by offshore finance.

Therefore, in such circumstances, the relevant government departments should not be "self-centered" and ignore the cooperation of each other on promoting the

implementation of preferential policies of Yang Shan Bonded Logistics Park. Customs, port, inspection and quarantine departments, and other departments should realize horizontal inter-departmental collaboration to emphasize the smooth and unity of information operations. The cooperation of different departments can finally realize the policy of “once declaration, unified handling” in real meaning, and then Yang Shan Bonded logistics park gradually improve the functions of the electronic monitoring, green channel, credit appraisal, and other aspects, creating exclusive operating methods with their own characteristics.

6.4 Establish risk management systems and logistics insurance market

The market approach of logistics park is different from the general operating businesses. Its profit is not from the specific products, marketing and sales, but from the management, service and integration capacity of logistics park. Today, the increasingly fierce market competition has more and more demands on the response speed of Yang Shan Bonded Logistics Park which face a more complex and enormous strategic development risk. Yang Shan Bonded Logistics Park, oriented by demand market of logistics services, has been impacted and restricted by uncertain factors in the market and have various risks in their operation and management process, and these risks also have serious impact on the Yang Shan Bonded Logistics Park development

Two kinds of measures can be taken in order to prevent and reduce the development risks of Yang Shan Bonded Logistics Park. On the one hand, specialized risk management departments can be set up, using fore-warning management methods and establishing risk management system so as to prevent the risks in various processes. Risk analysis mechanism can go throughout the whole process of Yang

Shan Bonded logistics park operation by cooperation and coordination with other management departments. What's more, individual department also can have scientific risk forecasting and systematic understanding of logistics park operating risks, trying to prevent when risks don't happen and be prepared when risks happen, Thereby reducing the risks and losses in the process. On the other hand, we can encourage the establishment of logistics insurance market to share business risks of Yang Shan Bonded Logistics Park. The park should choose the insurance business for logistics park on basis of scientific logic to share the risks with insurance companies. At the same time, Yang Shan Bonded Logistics Park also can play its role of logistics enterprises gathering zone. This park can open numbers of insurance business together with logistics enterprises in this park, which not only can reduce the insurance costs but also form a risk management alliance between Yang Shan Bonded Logistics Park and its logistics enterprises to mutual constraint and prevent further risks.

Chapter Summary

This chapter examined and illustrated the issues surrounding Yang Shan Bonded Logistics Park. According to the above functional appraisal, the problems existing are presented, at the same time; the corresponding solutions have been given to improve the development of Yang Shan Bonded Logistics Park. In the first place, effective actions should be taken to improve international transshipment volume to make up for long transport distance defects. Secondly, some large companies have registered in Yang Shan Bonded Logistics Park, but their purposes may be not to develop logistics business, but to enclosure the land. To tackle this problem, more logistics enterprises should be introduced to Yang Shan Bonded Logistics Park, in other words, the park should try to attract more investors. Moreover, different

government departments should cooperate with each other aiming to avoid the ineffective implementation of preferential policies. Finally, we also should establish risk management systems and logistics insurance market to prevent and reduce the development risk of Yang Shan Bonded Logistics Park.

CONCLUSION

In an era of economic globalization, the development of Yang Shan Bonded Logistics Park is an important prerequisite of establishing Shanghai international shipping center. It's worthy of comprehensive evaluating the developing conditions of Yang Shan Bonded logistics park in order to identify the advantages and disadvantages. Then corresponding strategies can be developed which may build on the strengths, eliminate the weaknesses, exploit the opportunities or counter the threats when facing an uncontrollable logistics market. Among the influencing factors, some external and internal environment of Yang Shan Bonded Logistics Park has strengthened its competitive advantages in the fierce logistics market, such as Geographical advantages and advanced traffic system, Integrated regional functions Perfect Supporting Facilities, Superposition of preferential policies, Yang Shan deepwater port and vast hinterland and Multi-industrial clustering. In the meantime, obstacles have made its developing road difficult, such as Long transport distance, Weak logistics software environment, tremendous development risks and strong competitors. All these factors have impact on the development of Yang Shan Bonded Logistics Park and can not be ignored.

Based on the identification of developing environment, we have learned the positive and negative factors that have significant influence on the development of Yang Shan Bonded logistic park. And then the strategic objectives and developing functions in the long-term plan should be determined. Since Yang Shan Bonded Logistics Park has been put into operation for about two years, how well it operates? The strategic objectives are connection with the port inland, balance ability of logistics chain, being a logistics hub and innovation of custom inspection. What's more, the specific developing functions also are determined to realize the final

strategic objectives. Yang Shan Bonded Logistics Park will focus on seven aspects to expand its functions, namely port inland auxiliary operation, offshore port inspection function, the three-dimensional multimodal transport hub service, integrated value-added logistics services, logistics information hub service, logistics Park ancillary services and free trade services with china's characteristics.

According to its planning functions, evaluation system has been established to appraisal the functional development of Yang Shan Bonded Logistics Park. The results indicates that the overall performance of yang Shan Bonded logistics park is well, but its policy implementation and nature long-distance defect may lead to reduction of logistics business in the park in the short period. While with the conduction of according actions, in the long-tem prospect, Yang Shan Bonded Logistics Park has large potential to play its core role in the international logistics market.

All in all, Yang Shan Bonded Logistics Park should make full use of the advantages of Yang Shan Deepwater Port as international container hub to improve its functional development. With strengthen of integrated logistics services in all aspects, it should make efforts to build into an distribution park of cross-border internet sales enterprises and transshipment hub center of international container multimodal transportation, and finally forming an rational-layout, multi-level, appropriate-scale logistics service system with an seamless supply chain.

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